

ABSTRACT OF THE DISCLOSURE

According to the invention, the oral administration of immunogenic compositions to induce protection against challenge by bacterial, viral or other pathogens, in the absence of an antibody response. In one embodiment the antigenic composition is a transgenic plant expressing an antigenic determinate of said pathogen, in yet another embodiment the antigenic composition is a enterotoxin which may be administered with food or as part of a transgenic plant. According to the invention, administration of these immunogenic compositions in traditionally subclinical amounts which are insufficient to generate an antibody response, provides protection against later challenge by a particular pathogen.